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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,019	09/30/2003	Keng Shui Wu	UCIP408	1518

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EXAMINER

MITCHELL, KATHERINE W

ART UNIT PAPER NUMBER

3677

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/679,019		WU, KENG SHUI	
	Examiner		Art Unit	
	Katherine W. Mitchell		3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/12/2005, accepted 12/07/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species: threads in same helical direction and threads in counter helical direction. The species are independent or distinct because they are mutually exclusive, and applicant amended the direction to overcome a previously-applied reference.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic..

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

2. During a telephone conversation with J Huang on 3/9/2006 and 3/16/2006 an election was made without traverse to prosecute the invention of Group 1, claims 1,3,4. Applicant elected claims 1,3,4 and noted that claims 5-6 would be cancelled.

Information Disclosure Statement

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

4. The disclosure is objected to because of the following informalities: Pg 1, lines 6-25 refer to USP 4834602 having threads 11 and 12. No such threads are shown in the drawings or specification. Similarly, pg. 2 lines 1-10 discuss USP 4241638 having threads 20,21, and 23, but again no such threads are shown in the drawings or specification. Examiner is not sure what applicant is referring to.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites each of the screwing threads and each of the cutting threads

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forming an angle Φ , phi. What is the angle with respect to? One line cannot define an angle. Claim 4 is rejected as depending from claim 1.

Claim Objections

7. Claims 1,3,4 are objected to because of the following informalities: What is a guiding angle? It is never defined and is not an industry-accepted term. Examiner assumes it is the angle with respect to the longitudinal axis of the screw. Appropriate correction is required.

Claim Rejections - 35 USC § 102

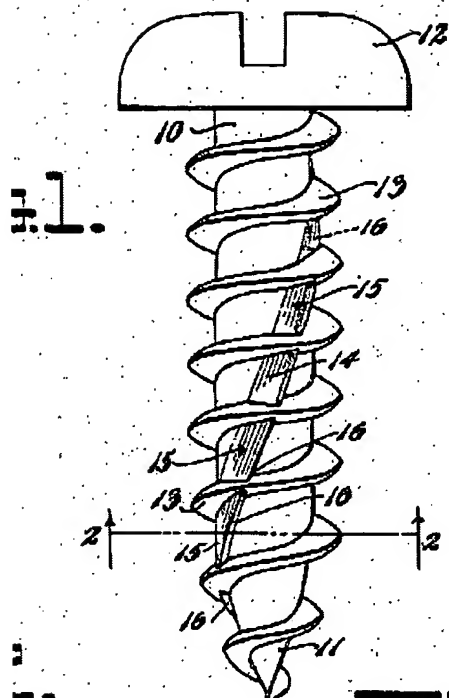
8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1,3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Oestereicher, USP 2263137.

Fig. 1 is a view in elevation of a fastener embodying my improvements and showing the locking projection continuous in a spiral arrangement in the direction of the screw threads and at an angle thereto.



30 thereof I form a projection 14, in this construction these projections being in a continuous spiral running from right to left or counterclockwise and from the head to the point of the screw. I desire to be understood, however, that while I have shown these locking projections running the full length of the fastener shank, I do not wish to be restricted in this respect, as obviously they may extend to a point short of the head or even short of the entering end as desired.

40 The projections 14 may be produced by any desired method and simultaneously with the formation of the thread or not, but preferably the rolling method is employed so that the projection is obtained by extrusion of the metal
45 from the body simultaneously with the formation of the threads thereon.

As will be observed in Fig. 2, and elsewhere, the projection inclines gradually from the surface of the shank on a line substantially tangent to the body to a height about midway of the height of the adjacent thread as shown at 15, terminating in an abrupt shoulder facing in the direction counter to the direction of inward screwing of the fastener. Preferably, the shoulder face is undercut as shown at 16 to the

It remains to be stated that where the fasteners are to be used in hard metals or materials, they are preferably hardened to prevent deformation, but otherwise this is optional. This hardening aids in the cutting action of the threads and the displacement of the material receiving the fastener from the thread path into the space between the thread helices by said threads, the threads thus acting as a pilot for the operation of the projections themselves, so that little or no material additional resistance is produced by the use of the locking feature.

Y olisim:

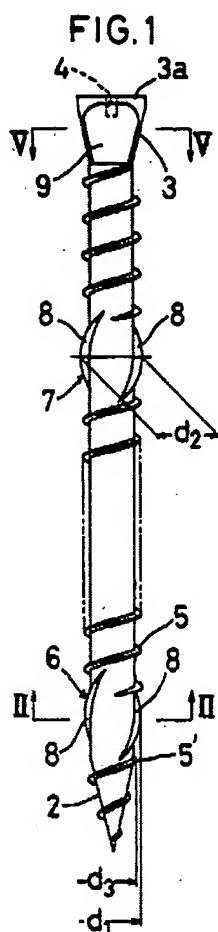
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As noted above, Oestereicher teaches a screw with a head having a central recess (head 12 clearly has slot), a shank of a "proper" length (any length is proper for something) and screwing threads (13) and cutting threads (14/15), each of said screwing and cutting threads respectively having different guiding angles (fig 1 above, note claim objection above) and both threads having the same helical direction (above) and extending upward from a lower cone-shaped end portion to an upper end a "little lower" (relative term interpreted very broadly - little lower is relative) from said head, each of said screwing and cutting threads forming an angle phi (see ***Claim Rejections - 35 USC § 112 above***) --note that an angle phi is formed with respect to some {unnamed} line or plane. Note that any helical threads are considered to inherently perform some degree of screwing and cutting.

Re claim 3: As noted above, Oestereicher teaches a screw with a head (head 12), a shank extending from said head, said shank having a screwing thread (13) and cutting thread (14/15), both of said screwing and cutting threads respectively having different 1st and 2nd respective guiding angles (fig 1 above, note claim objection above) and both threads having the same helical direction.

Re claim 4: The screwing thread has a 1st pitch, the cutting thread has a second pitch, and the first pitch is smaller than the second pitch -- see Fig 1 above - the screwing thread 13 is clearly of a smaller pitch than the cutting thread 14/15.

10. Claims 1,3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Gotoh USP 5015134.



As shown in FIGS. 2 to 4, each of the drill edges 6 and 7 is in the form of two ribs 8 arranged in diametrically opposite positions relative to each other and extend helically with a larger lead angle than that of the threads 5 and 5'. The section of the ribs 8 transverse to the axis thereof is in the shape of a triangle having an apex angle of about 60 degrees. They have arcuate ridge lines extending along the direction of twist.

As shown in FIGS. 1 and 2, the maximum diameter d_1 of the drill edge 6 is larger than the maximum diameter d_3 of the threads 5' on the tapered portion 2 and smaller than the maximum diameter d_4 of the threads 5 on the main portion of the shank ($d_3 < d_1 < d_4$). On the other hand, as shown in FIG. 4, the drill edge 7 has a maximum diameter d_2 equal to or larger than the maximum diameter of the threads 5 on the main portion of the shank ($d_2 \geq d_4$). The upper limit by which the maximum diameter d_2 of the drill edges 7 exceeds the maximum diameter d_4 of the threads 5 should be set at about 0.15 mm.

The length of the drill edges 6 and 7 should be determined according to the diameter of the screw. But ordinarily, the drill edge 6 should have a length substantially equal to the longitudinal distance of three turns of the threads 5' and the drill edge 7 should have a length substantially equal to the longitudinal distance of two turns of the threads 5.

As shown in FIG. 1, the head 3 has a neck portion it connecting to the shank 1 and having a square pyramidal shape expanding from the shank 1 rearwardly. As shown in FIG. 5, the section of the square pyramidal portion in a direction perpendicular to the axis of the screw has such a shape that the respective opposite planes 9 of the square pyramidal portion are parallel to each other and the corners 10 formed by the adjacent planes 9 are rounded off. The head 3 has a circular section at a portion near its rear end face 3a formed with a driver groove 4.

As noted above, Gotoh teaches a screw with a head 3a having a central recess 4, a shank of a "proper" length (any length is proper for something) and screwing threads (5,5') and cutting threads (6/7/8), each of said screwing and cutting threads respectively having different guiding angles (fig 1 above, note claim objection above) and both threads having the same helical direction (above) and extending upward from a lower cone-shaped end portion to an upper end a "little lower" (*relative term interpreted very broadly - little lower is relative. Also note that applicant did not claim that cutting threads were continuous*) from said head, each of said screwing and cutting threads forming an angle phi (see **Claim Rejections - 35 USC § 112 above**) --note that an

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angle phi is formed with respect to some {unnamed} line or plane. Note that any helical threads are considered to inherently perform some degree of screwing and cutting.

Re claim 3: As noted above, Gotoh teaches a screw with a head 3, a shank extending from said head, said shank having a screwing thread (5,5') and cutting thread (6/7/8), both of said screwing and cutting threads respectively having different 1st and 2nd respective guiding angles (fig 1 above, note claim objection above) and both threads having the same helical direction.

Re claim 4: The screwing thread has a 1st pitch, the cutting thread has a second pitch, and the first pitch is smaller than the second pitch -- see Fig 1 above - the screwing thread 5,5' is clearly of a smaller pitch than the cutting thread 6/7/8.

Response to Arguments

11. Applicant's arguments with respect to claims 1,3,4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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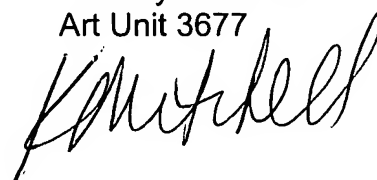
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell
Primary Examiner
Art Unit 3677



Kwm
3/17/2006